

# CORROSION RESISTANT STEELS - MARTENSITIC PRECIPITATION HARDENING (PH ) STEELS

## Application Segments

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Oil & Gas / CPI

## Available Product Variants

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Long Products\*

Semi-Finished Products / Billet

Plates

Open Die Forgings

\* Presented data refer exclusively to long products. Please observe the detailed explanations at the end of the data sheet (pdf).

## Product Description

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BÖHLER N701 is a corrosion-resistant steel available in the form of bars, wire, and forgings in the solution-annealed condition.

It is a martensitic, precipitation-hardenable chromium-nickel-copper steel with high strength and toughness. Further strength enhancements can be achieved through cold working and subsequent precipitation hardening.

These products are typically used for parts that require higher corrosion resistance than conventional 13% or 17% chromium steels and high strength up to 316°C. However, their use is not limited to such applications. The vacuum melting process is used to improve steel purity and homogeneity.

Certain processing methods and operating conditions can make these products susceptible to stress corrosion cracking.

Typical applications include reactor construction, highly stressed pump parts, springs, ship shafts, plastic injection molds and compression molds, and medical instruments.

## Process Melting

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Airmelted + VAR

## Applications

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|--|---|----------------------------|
| > Civil and mechanical engineering   | > Medical                                       | > Mechanical Engineering   |
| > Injection molds and screws for the processing of glass fiber reinforced plastics | > Shafts  | > Other Components         |
| > Pumps and High Pressure Components   | > Fasteners, Bolts, Nuts                        | > Food processing industry |
| > Injection Molding  | > General Components for Mechanical Engineering |                            |

## Technical data

Material designation		Standards	
15-5 PH	Market grade	A564	ASTM
1.4545	SEL		
X5CrNiCu15-5	EN		
S15500	UNS		

## Chemical composition (wt. %)

C	Si	Mn	P	S	Cr	Ni	Cu	Nb
max. 0.07	max. 1.00	max. 1.00	max. 0.040	max. 0.030	14.00 to 15.50	3.50 to 5.50	2.50 to 4.50	0.15 to 0.45

Related to ASTM A564

## Delivery condition

Solution Annealed + Quenched	
Hardness (HB)	max. 363

Solution Annealed + Quenched	
Hardness (HRC)	max. 38

## Round Bars and Wire Rod (if any)

Diameter mm	
<b>ROLLED</b>	
12.50	- 130.00
<b>FORGED</b>	
130.10	- 203.20

More information regarding MOQ, length and tolerance upon request. Flat Bars upon request.

If other available product variants are listed in addition to long products, please note that these may differ in terms of melting process, technical data, delivery and surface condition as well as available product dimensions. For mandatory technical specifications, other requirements and dimensions, please contact our regional voestalpine BÖHLER sales companies. The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

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